Posterior Epidural Contrast Injection Via Posterolateral Transforaminal Approach

To the Editor:

We read the article by Zhu et al (1) regarding an alternative approach for lumbar transforaminal epidural steroid injections. We found that their work was similar to our previously reported article, "Fluoroscopically guided transforaminal epidural dry needling for lumbar spinal stenosis using a specially designed needle" (2).

In our article, we introduced a minimally invasive interventional technique using a specially designed needle to treat lumbar spinal stenosis via transforaminal approach. The primary treatment target of our technique was the posterior epidural space. Figure 1 shows our treatment target. Although there were several differences (computed tomography images, needling point, and left-sided approach in ours and magnetic resonance images, injection point, and right-sided approach in theirs), we think basic concepts between the 2 works were similar.

We bent the needle 5-30° at a point 2-4 mm from the tip. They used a spinal needle with a pencil tip (a blunted tip) bent 3-5 mm from the tip.

We conducted a transforaminal epidural contrast agent injection test using a spinal needle to examine whether the specially designed needle made for our technique effectively reached the posterior epidural space (Fig. 2). We found that when the spinal needle was advanced transforaminally in its original straight form, it was difficult to contact the canal side of the inferior articular process between the facet joint and pedicle and advance further into the anterior epidural space. However, when the tip was curved (Fig. 2A), one could easily contact the canal side of the inferior articular process between the facet joint and pedicle and reach the posterior epidural space (Figs. 2B and 2C).

We hope to hear their opinion on what may be similar and what may be different between our approach and theirs.

Fig. 1. *Three-dimensional CT images of the transforaminal epidural dry needling procedure. The sagittal CT image shows the area where the transforaminal epidural dry needling was performed (A). The coronal (B) and axial (C) CT images show the depth and route of needle insertion.*

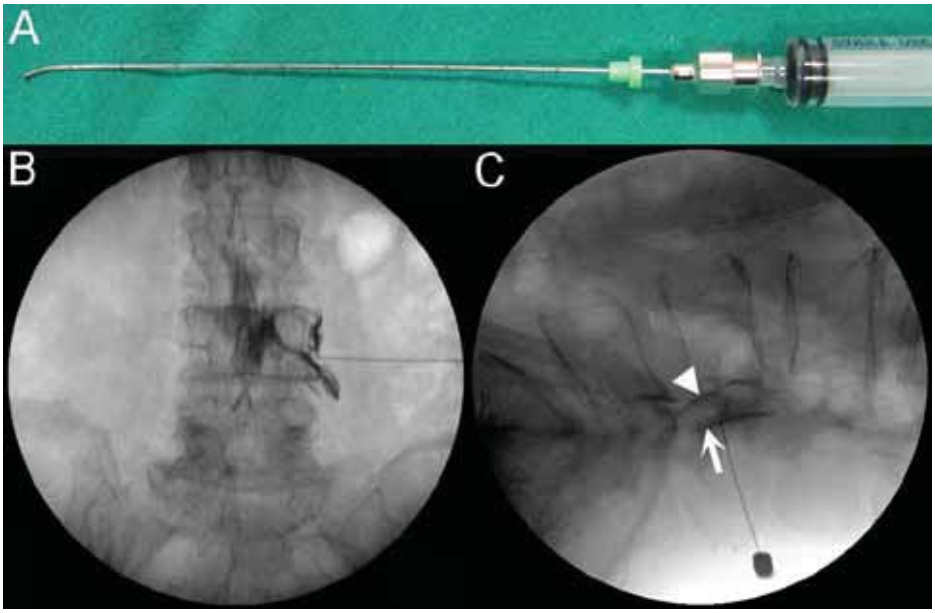

Fig. 2. *Transforaminal epidural contrast injection test to demonstrate that the specially designed needle effectively reached posterior epidural space. The curved spinal needle used in the test (A). The anteroposterior fluoroscopy image shows a needle that has been advanced transforaminally at the L4-L5 level and contrast agent flowing through the epidural space (B). The lateral fluoroscopy image. The triangle (▼) indicates contrast agent in the anterior epidural space when the needle was used in its original straight form. The arrow (↑) indicates contrast agent in the posterior epidural space when the curved needle was used. The curved needle contacted the canal side of the inferior articular process between the facet joint and pedicle (C).*

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2. Ahn K, Jhun HJ, Lim TK, Lee YS. Fluoroscopically guided transforaminal epidural dry needling for lumbar spinal stenosis using a specially designed needle. *BMC Musculoskelet Disord* 2010; 11:180.